Asset Management Plan

2020

Pathway Infrastructure

Southern Grampians
SHIRE COUNCIL

QUALITY ASSURANCE

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Contents

EXECUTIVE SUMMARY

1 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

The Pathway Infrastructure Asset Management Plan (plan) has been developed to guide Council and the community in the provision and development of pathway infrastructure currently managed by Council. The purpose of this plan is to document the Council's asset management practices and present a lifecycle strategy for pathways and associated infrastructure for the next ten years.

The plan considers all relevant levels of service, the current Council Plan and other key planning processes and documents. This plan determines the manner by which Council undertakes the management of pathway infrastructure assets to achieve the required levels of service to the community and meet regulatory requirements.

1.2 Asset Description

The Road Management Act 2004 defines a pathway as "a footpath, bicycle path or other area constructed or developed by a responsible road authority for use by members of the public other than with a motor vehicle but does not include any path which has not been constructed by a responsible road authority, or which connects to other land." p.7 Road Management Act 2004

This definition is still valid with the amendment to the Road Management Act 2004 as below;

Sec 5 (2) If a road authority is a municipal council, the provisions of Division 1 of Part 2 of the **Local Government Act 2020** and Division 2 of Part 9 and Schedules 10 and 11 of the **Local Government Act 1989** apply and are to be construed for the purposes of this Act as if those provisions formed part of this Act.

The assets covered in this plan include;

- 14,731 m^2 or 4,879 m length of brick footpaths. [1]
- 126,433 m^2 or 96,712 m length of concrete footpath. [1]
- 30,131 m^2 or 15,506 m length of gravel pathways. [1]
- 35,469 m^2 or 16,320 m length of sealed pathways. [1]

Total replacement value of these key asset components as at May 2019 was $15,770,357.[2]

[1] Asset Management System May 2019.

[2] Asset Management System Valuation Summary Report May 2019.

The infrastructure assets within Council's road reserves consist broadly of the following six sub assets.

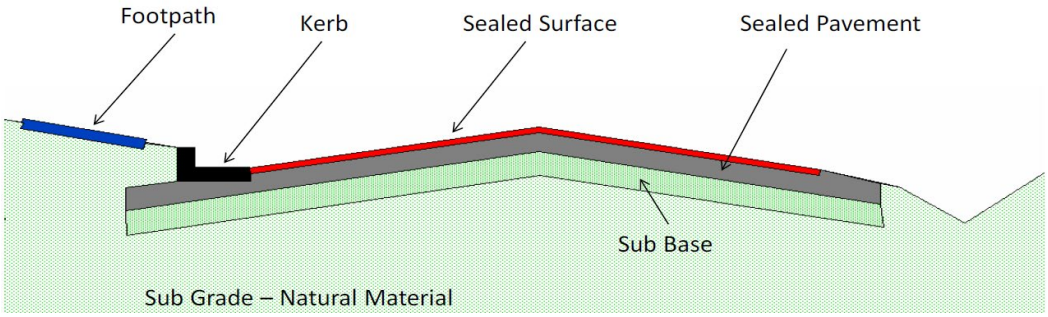


Figure 1: The Road Sub Asset components[3]

- **The Footpath**
  Pavements for foot traffic. Their life may vary greatly and can be quite extensive if localised failures are repaired as they occur. With a typical service life (concrete footpaths) of 40 – 80 years.
- The Sealed Surface
- The Sealed Road Pavement
- The Unsealed Road Pavement
- The Kerb
- The Sub Base; and
- The Sub Grade

Each discussed in Council's Road Infrastructure Asset Management Plan.

1.3 Levels of Service

General pathway asset condition intervention levels also known as renewal limits are shown in the following table. (Factors that can impact on the intervention levels include facilities such as schools, playgrounds and hospitals and it is at Council's discretion upon when to intervene).

Table 1: Pathway Asset Condition Intervention Levels and Estimated Life of Asset in Years

Asset Type	Intervention Levels*	Estimated Asset Life Years[3]
Brick Footpaths	Condition 7	40
Concrete Footpaths	Condition 7	70
Gravel Footpaths	Condition 7	10
Sealed Footpaths	Condition 7	15
* refer section 8.2.2 Moloney Asset Management Report 2019		

[3] Moloney Asset Management System Report 2019

1.4 Future Demand

Southern Grampians is projected to experience a slow population decline throughout the next 20 years. Any new pathway developments will increase the maintenance and renewal burden and must be considered in forecasting future expenditure.

1.5 Lifecycle Management Plan

As per Council's Asset Management Policy, works are undertaken with the understanding that we renew before upgrade or new. This means that areas within the shire without existing pathways are unlikely to receive them. To install pathways would require investigation by Council Officers including usage counts and resident attitude towards a special charge scheme.

Council employs dedicated resources to undertake physical inspections of all pathway infrastructure in accordance with Council's Road Management Plan.

General maintenance strategies include:

- Ensuring the pathways network is maintained in accordance with agreed levels of service
- Deferring non-safety related maintenance work if rehabilitation is imminent

During subdivision of land, developers/owners may be required to construct pathway infrastructure as per the Infrastructure Design Manual as part of the Planning process. Once the subdivision is finalised, these assets are then handed over to Council for continued maintenance. All creations and disposals are managed in accordance with the relevant Council policies.

1.6 Financial Summary

This plan describes the way pathway infrastructure is managed throughout its lifecycle. The Service Plan in conjunction with the Road Management Plan are key documents used to inform this plans Financial Summary.

The predicted average renewal demand for the next 20 years was calculated by a consultant during the condition and revaluation assessment contract in September and October 2019. Currently Council's budget is set based on historic costs and the needs of the varying pathway types and usage patterns.

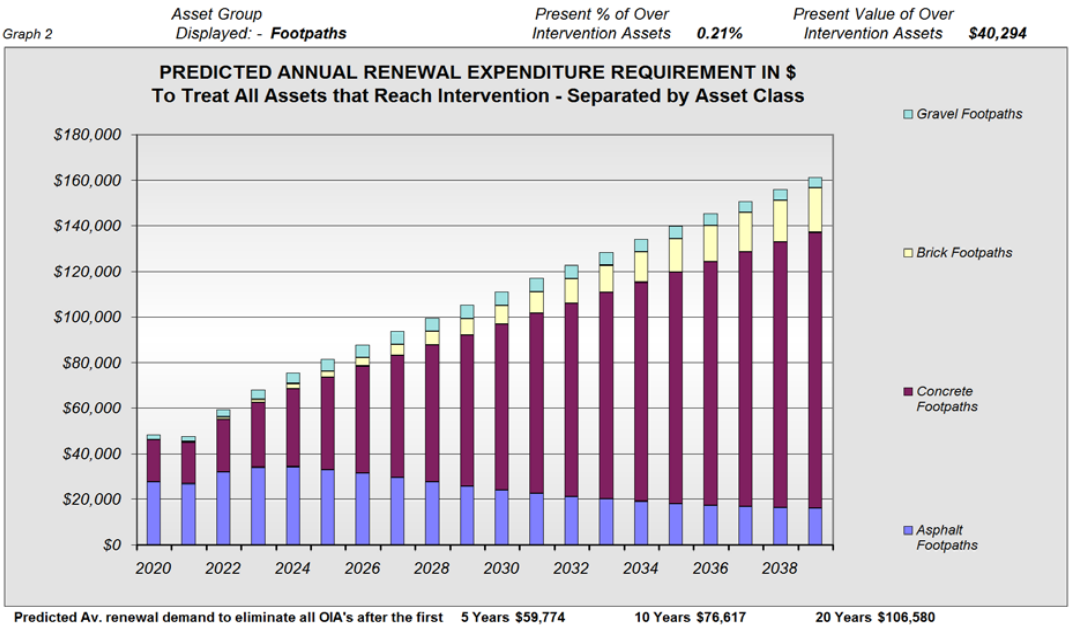


Figure 2: Predicted Renewal Demand to Treat All Assets that Reach Intervention Level (Moloney Asset Management Report 2019)

1.7 Asset Management Practices

This plan aligns with key organisational documents including the current Council Plan, Strategic Resource Plan, Annual Plan and Asset Policy. The Road Management Plan and Accounting for Assets Policy are referred to when setting capital and operational budgets and undertaking condition assessments and revaluations of the assets.

Council uses Conquest 3 to store asset related data including recording inspections, condition ratings and valuations and to report on the state of the assets. Pathway data was assessed and cleaned during the 2019/20 financial year to remove duplicate sections and realign segments. Confidence in pathway data is considered high.

1.8 Monitoring and Improvement Program

This plan is a living document and will be internally reviewed by the Assets Team annually. A full review will be undertaken every fourth year to coincide with revaluation and condition assessments as per the Accounting for Assets Policy.

Key areas of improvement include:

1. Increase the accuracy of pathway data
2. Increase use of mobile tools to allow real time capture of defects and works in the field
3. Create an audit process for design and construction works to ensure compliance with the Road Management Plan

INTRODUCTION

2 INTRODUCTION

2.1 Background

2.1.1 Purpose of the Plan

The Pathway Infrastructure Asset Management Plan (plan) has been developed to guide Council and the community in the provision and development of pathway infrastructure currently managed by Council. The purpose of this plan is to document Council's asset management practices and present a lifecycle strategy for pathways and associated infrastructure for the next ten years.

The plan considers all relevant levels of service, the current Council Plan and other key planning processes and documents. This plan determines the manner by which Council undertakes the management of pathway infrastructure assets to achieve the required levels of service to the community and meet regulatory requirements.

The emphasis of this plan has been:

- To identify all pathway infrastructure assets and existing management arrangements
- To give an overall estimate of the cost of owning and maintaining the assets over the long term (10 years)
- To document management goals whilst allowing for the varying service levels affecting the assets

2.1.2 Relationship with other planning documents

The following documents have a direct relationship with this plan:

- Current Road Management Plan
- Current Register of Public Roads
- Current joint boundary roads agreements
- Southern Grampians Shire Council Long-Term Financial Plan
- Current Council Plan
- Accounting for Assets Policy
- Current Strategic Resource Plan
- Railway reserves agreement

The Southern Grampians Shire Council Strategic Asset Management Framework is depicted in the Figure below:

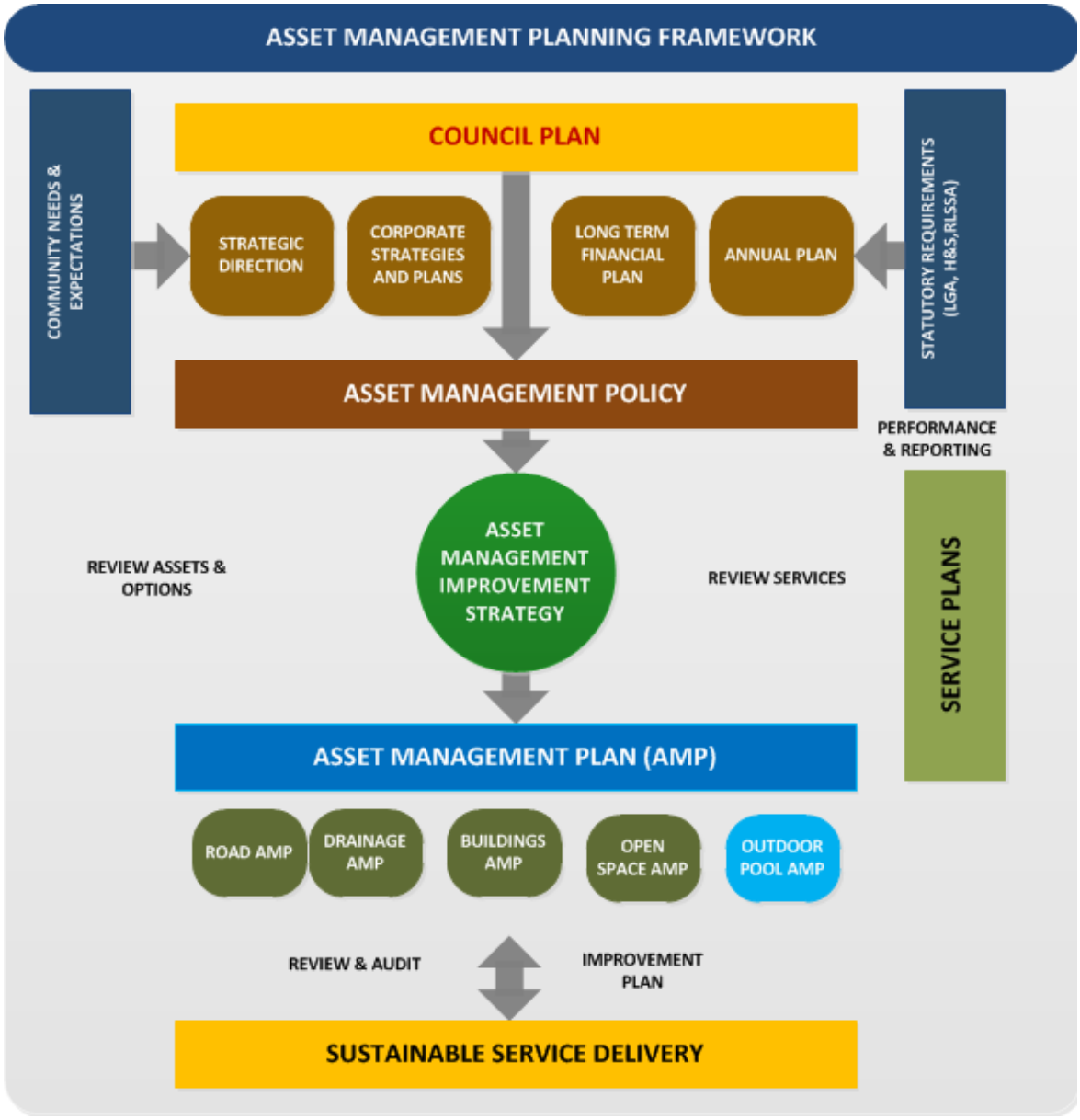


Figure 3: Asset Management Planning Framework

2.1.3 Infrastructure assets included in the plan

This plan covers the asset management of the below

Table 2: Assets Covered by this Plan

Asset Category	Asset Component	Example of Assets Included
Pathways	Footpaths	Brick Footpath
		Concrete Footpath
		Gravel Pathway
		Sealed Pathway

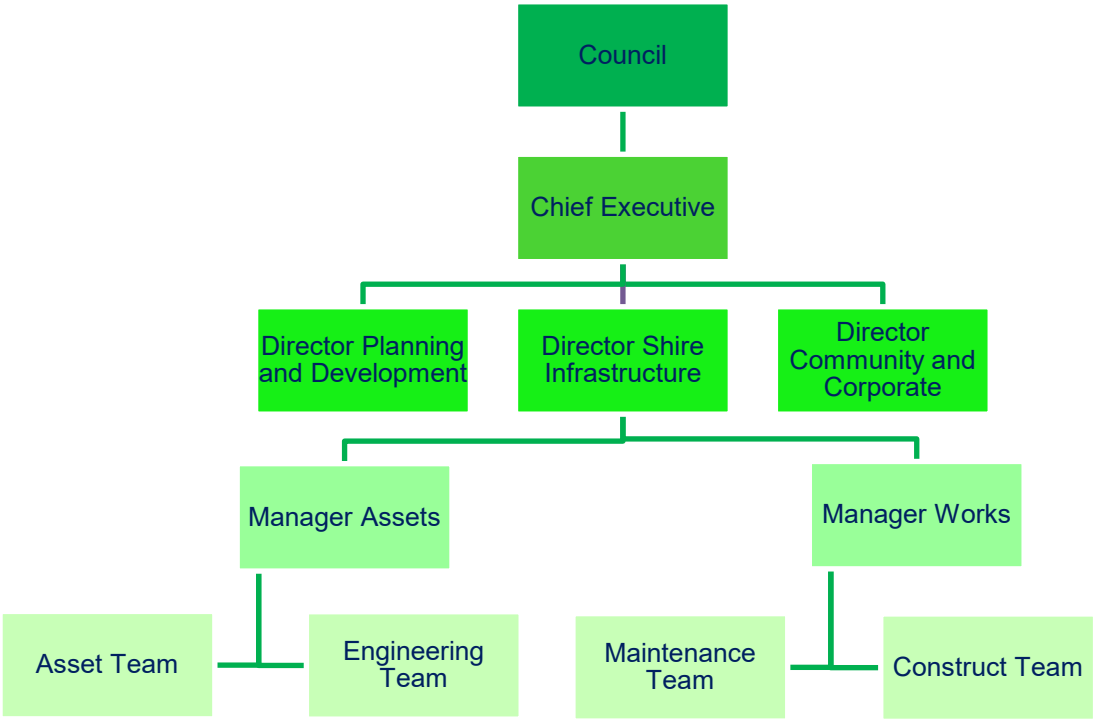
2.1.4 Key Stakeholders in the Plan

The table below identifies the key stakeholders and their responsibilities with regards pathway infrastructure.

Table 3: Stakeholders and Responsibilities

Stakeholder	Responsibility
Council	Owner and maintainer Legislator (local laws)
State and Federal Government	Legislators Funders Owner and maintainer
The community including but not limited to: • Pedestrians • Runners • Residents • Visitors • Businesses (Footpath Trading) • Cyclists	User of network
Traffic & Transportation managers	User of network
Construction & maintenance personnel who build and maintain asset components	As contracted
Aboriginal/Cultural Heritage	Advisors
Utility agencies that utilise the road reserve for their infrastructure (Water, sewerage, gas, electricity, telecommunications)	Interested party Management of assets within the road reserve

2.1.5 Organisational Structure



2.2 Goals and Objectives of Asset Ownership

2.2.1 Reasons and Justification of Asset Ownership

Local Government (Council) exists to provide core services to meet the needs of its community. Some of these services are provided by infrastructure assets. Council acquires infrastructure assets by purchase, contract, gifting/donation, following subdivision and construction by staff.

2.2.2 Links to organisation vision, mission, goals and objectives

Asset management plans are a vital component of Council's overall strategic planning process. It is guided by Councils Vision from the 2017-2021 Council Plan:
*"That Southern Grampians Shire will be recognised as a well-connected, dynamic Regional Centre, supporting a vibrant, healthy and inclusive community" and Key Priorities from t*he Council Plan (Priority 1 'Support our Community' and Priority 3 'Plan for our Built Environment and Infrastructure').

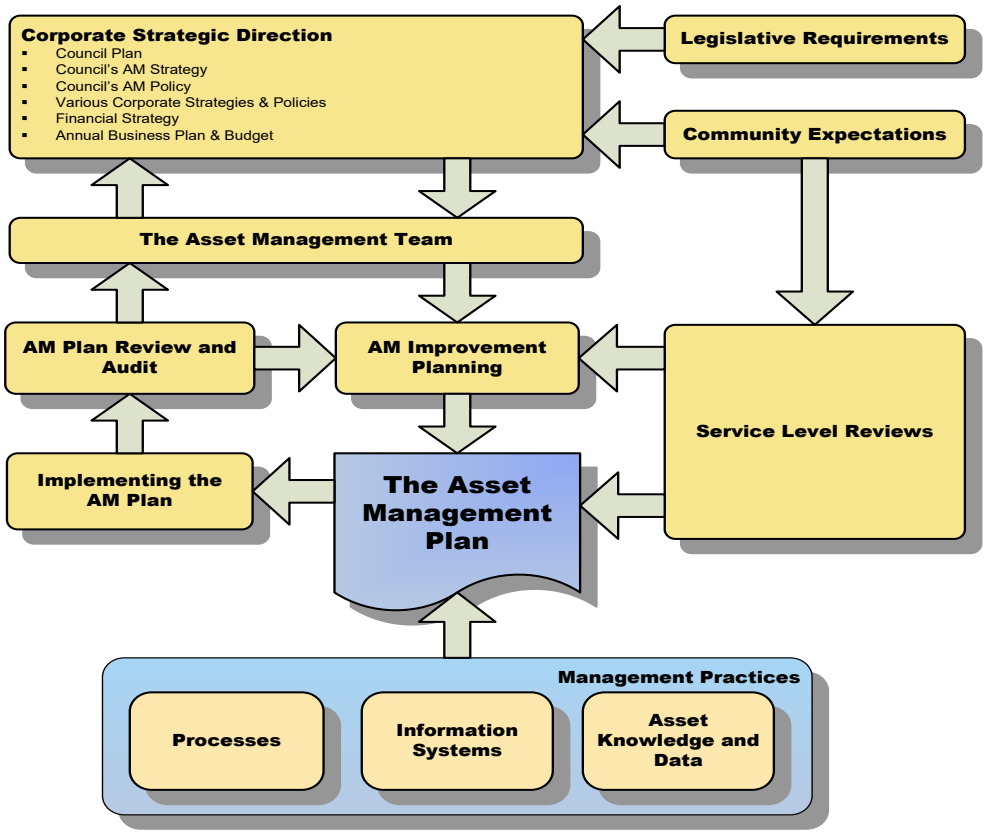


Figure 4: Development Process of an Asset Management Plan

2.3 Core and Advanced Asset Management

Guidance in the development process of this plan has been taken from the International Infrastructure Management Manual (IIMM) 2015, and ISO55000 Asset Management Standards.

It should be noted that advanced principals are aspirational for Council and not all are currently employed as part of the asset management arsenal. Notably improvements in the following areas are required or occurring.

- Data validation and cleansing of the asset register
- Implementation of a maintenance management system
- Defined levels of service
- Development of a prioritisation tool
- Council officer training in predictive and long term financial modelling
- Application of risk management in accordance with Council's Risk Management Policy
- Development and introduction of optimised decision making techniques

LEVELS OF SERVICE

3 LEVELS OF SERVICE

3.1 Customer Research and Expectations

This section of the plan documents the methodology and the Levels of Service to be delivered by pathway assets through the implementation of the plan. Council is keen to enhance the management of pathway assets to better meet community expectations within financial and other practical constraints. Achievement of this objective will require the establishment of service level measures and performance targets that guide future asset management decision-making.

Council participates annually in a state wide Community Satisfaction Survey that measures Council performance against other Municipalities. Whilst Council had a 1% increase with regards overall performance, it is 7% below the state average. No individual pathway measures were undertaken. It could be assumed a similar score to sealed local roads would be achieved which would put Council below 50% and require further work to meet customer satisfaction levels.

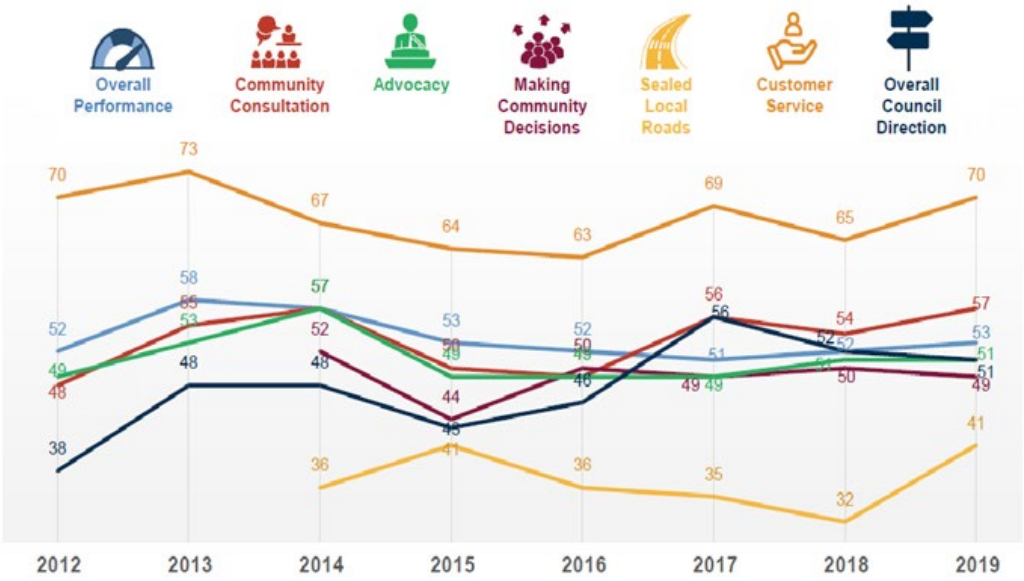


Figure 5: 2019 Community Satisfaction Survey Core Measures Summary

3.2 Strategic and Corporate Goals

A strategic objective of the Council Plan is to develop service and asset management plans for the ongoing management of Council's assets. In conjunction with the asset management framework, this plan has been developed to focus on the strategic replacement of Council assets to ensure that risks are minimised, and that the best cost/benefit outcomes are achieved for the community. The table below identifies how this plan links to Council's Annual Plan Key Strategies, Objectives and Strategies.

Table 4: Strategic Objectives and Priorities

Key Strategy	Objective	Strategy	Plan Connections
1. Support our Community	1.2 A healthy and vibrant community	1.2.1 Provide appropriate, accessible and equitable Council services, facilities and activities	The plan identifies practices and priorities for cycleway, pram and disabled access and other community pathway infrastructure
		1.2.4 Provide, promote and support appropriate and accessible services, facilities and activities for young people	The plan prioritises work based on pathway hierarchy, consumption, condition and best practice across the network.
3. Plan for our Built Environment and Infrastructure	3.1 Plan and provide for sustainable assets and infrastructure	3.1.2 Review and adopt AMP to align with future service levels and prioritise sustainability	The plan identifies service levels consistent with Council objectives
	3.2 Plan, advocate and provide for safe and well maintained transport routes and infrastructure	3.2.3 Provide infrastructure that supports an active community	The plan prioritises work to ensure strategic management of the whole network
	3.3 Develop and maintain attractive and vibrant Council owned and managed open spaces and streetscapes	3.3.2 Develop the CBD of Hamilton and commercial precincts in all towns	Upgrade pathway infrastructure throughout the Shire to promote economic growth and meeting changing demands of users
5. Provide Governance and Leadership	5.1 Provide transparent and responsible governance	5.1.3 Continue to increase the transparency of Council's decision making processes	The plan records decision making criteria for pathway infrastructure in a single document for easy reference and transparency

3.3 Legislative Requirements

This plan has been prepared in accordance with the following Acts, Regulations, Codes of Practice and related documentation as presented in the table below.

Table 5: Legislation and its Impact on Level of Services for Road Infrastructure

Legislation / Documentation	Levels of Service Requirement
Local Government Act 2020	The principal legislation in Victoria governing the establishment and operation of Councils.
Constitution Act 1975	The Victorian Constitution recognises local councils as a distinct and essential tier of government. It requires local government to ensure the peace, order and good government of each municipal district.
Disability Discrimination Act 1992	Makes it unlawful to discriminate against people with disabilities including exclusion.
Road Management Act 2004	Prescribes the requirements of Council with regards road infrastructure, community consultation, Register of Public Roads and other items. Including: • Road Management (Works and Infrastructure) - Regulations – 2015 • Road Management Act 2004 Code of Practice – Management of Road & Utility Infrastructure in Road Reserves 2016 • Road Management Act 2004 Code of Practice – Operational Responsibilities for Public Roads 2017
Ministerial Code of Practice – Road Management Plans 2004	Victorian Government Gazette S 201 16th September 2004
Heavy Vehicle National Law Application Act 2013	• Heavy Vehicle (Vehicle Standards) National Regulation 2013 • Heavy Vehicle (Mass, Dimension and Loading) National Regulation 2013 • Heavy Vehicle (Fatigue Management) National Regulation 2013 • Heavy Vehicle (General) National Regulation 2013
Southern Grampians Shire Council Plan 2017–2021	
Road Management Plan 2017-2021	Details the various legislative requirements, standards and codes of practice applicable to management of the road network
Southern Grampians Shire Strategic Resource Plan (2018/19 to 2021/22)	Long Term Financial Planning of Council
Asset Management Policy	• Asset Management Strategy • Roles and Responsibility Matrix • Accounting for Assets Policy
ISO 55000 and subsequent	Prescribes the international standards for asset management planning
International Infrastructure Management Manual 2015 (IIMM)	Provides guidance on how to comply with ISO 55000
Asset Management Accountability Framework (AMAF)	Victorian review of Council's asset management practices

Legislation / Documentation	Levels of Service Requirement
Workplace Health and Safety	• Road Safety Act 1986 • Electricity Safety Act 1998 • Occupational Health & Safety Regulations 2017 • Victorian Worksite Safety – Traffic Management Code of Practice • Working at Heights – Worksafe Victoria • Confined Spaces – Worksafe Victoria Compliance Code 15/03/2018 • 'No Go' Zone – Worksafe Victoria and Energy Safe Victoria • Manual Handling – Worksafe Victoria • Worksafe Victoria Noise Guidelines
Legislation that may impact on site preparation, work methods and project costs	• Transport Act (Compliance and Miscellaneous) 1983 • Australian Standard 1742.3 (2009) – Traffic Control Devices for Works on Roads • Plant and Machinery Regulations • Environmental Protection (Residential Noise) Regulations 2018 • Vegetation & Planning Controls • Flora and Fauna Guarantee Act 1988 • Planning and Environment Act 1987 (esp. Clause 52.17 of the Victorian Planning Provisions as updated from time to time) administered by Local Government • Environment Protection Act 1970 • Commonwealth Environment Protection and Biodiversity Conservation Act 1999

3.4 Current Levels of Service

3.4.1 Asset Functional Hierarchy

The current Road Management Plan sets out the pathway hierarchy for the Shire. The primary purpose of the pathway hierarchy is to ensure that appropriate management, engineering standards and planning practices are applied to a pathway based on its function. It also enables more efficient use of limited resources by allocating funding to those pathways that experience greater use.

A three tier system was determined to best suit Council's needs. These classifications are Commercial, Thoroughfare and Residential pathways. Attachment 1 provides the description and a photograph of a typical pathway in each classification.

3.4.1.1 Pathways

The table below defines the pathway class types.

Table 6: Pathway Classification

Class Type	Service Function Description
Commercial	Generally adjacent to commercial premises. Usually very wide, extending from the property boundary to the kerb. Activity level is continuous groups or individuals moving in both directions.
Thoroughfare	Used for longer distance travel to move from one area to another or for recreational purposes. May be wider than Residential pathways but not full width like Commercial pathways. Activity level is frequent groups or individuals.
Residential	Used for access to residential properties and more isolated facilities such as recreation reserves or corner shops. Activity level is occasional individuals.

The table below outlines the levels of service outlined in this plan.

Table 7: Service Requirements

Basis	Service Requirements
Legislative or Statutory Requirements	Legislation, Regulations, Acts/ Standards and Council by-laws that impact on the way assets are managed. These are the objectives/standards that must be met, set by regulations
Strategic Goals and Priorities	The lifecycle management of assets will be consistent with goals and values stated in the Council Plan
Customer Expectations	Information gathered from customers on expected quality and cost of services. These expectations (quality) must be balanced with funding and budgetary constraints

Council faces many demands from the community and has limited resources to deliver on these demands. The challenge for Council is to use resources where they will deliver the most benefit whilst also meeting legislative requirements. In order to do this, Council must determine based on use and types of properties serviced by the network, where to concentrate funding. This allows Council to continue to maintain the infrastructure to its agreed levels as identified in the current Road Management Plan.

3.5 Desired Level of Service (LoS)

Council has agreed with its community a desired level of service which it measures and tries to deliver to the best of its abilities. The table below mentions the Los parameters and the responsible officer.

Table 8: Service Quality Target

Level of Service	Pathways	
Target Performance	100% compliance with current Road Management Plan	
Actions Required	• Inspecting the network	• Manager Assets
	• Monitoring and updating of the SGSC asset register for condition, defects and improvements	• Manager Assets
	• Produce draft capital works list annually in January	• Manger Assets
	• Review and amend as required draft list and prepare a business case	• Manager Assets
	• Schedule and resource program	• Manager Works

As Council's policy is to renew assets before upgrading or creating a new asset, pathway infrastructure is only made to comply with the road management plan during reconstructions. General maintenance works are completed on a like for like basis.

An audit process is required to be developed to ensure designs and subsequent construction are within Australian Standards and meet our Road Management Plan targets. Council currently does not monitor compliance with the target as above.

FUTURE DEMAND

4 FUTURE DEMAND

4.1 Demand Drivers

This section provides details of municipal population and growth forecasts which may affect the management and utilisation of assets.

Key factors that directly impact the demand for services and related infrastructure include:

- Ageing population
- Mobile population
- Climate change
- Internet of Things

The Australian Government's Trends – Transport and Australia's Development to 2040 and Beyond describes the largest impacts for regional areas such as Southern Grampians as an ageing population and mobile population trends. This report advises that the population under 65 years is decreasing approximately twice as fast as in metropolitan centres. This is in part caused by a higher rate of younger individuals relocating to metropolitan areas or overseas. On the whole it is an issue because the workforce size is decreasing forcing pressure on services to remain viable to attract new growth.

Furthermore with increased volatility of Australia's weather patterns, caused by global warming, it is increasing the likelihood of infrastructure damage by natural disasters such as flood or fire. When natural disasters occur, the damaged infrastructure needs to be assessed and replaced/renewed adding to the workload of Council.

A more positive trend is the availability of the Internet of Things, WIFI and smart devices. Council already has parking sensors and mobile devices that connect via apps to our asset register. This makes capturing data faster and more user-friendly for the works team. Technology will also assist Council to share and report more easily to residents and government and increase transparency of decision making.

4.2 Demand Forecast

With the increasing trend for online businesses, it is expected that retail outlets will continue to move away from physical shopfronts in favour of online stores. There is potential for development of new commercial service sites that could generate increased volumes of pedestrian traffic on specific pathways, however it is more likely drive through stores and click and collect options will continue to grow in popularity. The previous Commercial pathways may in future not be any more utilised than Thoroughfare pathways.

Parks Victoria is finalising the Grampians Peak Trail (due 2020) and intends to create a ring road around the Grampians National Park as tourism landmarks. This may create additional demand on local roads and pathways in the vicinity of the Grampians National Park due to increased tourism and local users of the adjoining Dunkeld Loop Walk being completed by Council 2019/20.

Whilst these are positive projects for the region and will generate new jobs and income for some within the community, the impact of increased maintenance on pathways would cause a significant financial burden to all ratepayers.

Any additional developments will be examined closely as to their impact on the pathway network and overall management of the same. Conditions will be applied to address the impacts wherever practicable.

4.3 Demand Impacts on Assets

Council has to be able to sustain the level of maintenance and renewals of pathway assets over the long term if it is to provide the community with the network that the community desires. A commitment to providing a level of service has a consequential funding obligation. Opportunities for funding are generally limited to income from government grants and from Council rates.

The other alternative is to reduce maintenance costs. Reductions can result from use of improved work techniques and practices, new technology and materials, and also by reducing the level of service being provided.

Where new development or redevelopment is proposed within the Shire, any impacts on Council's assets are considered within the business case (internal) or approval (external) process. At a minimum this includes application of appropriate infrastructure design standards as referenced in designs, scope or planning conditions by the Assets Team.

Government actions, such as highway realignment proposals, are usually undertaken in consultation with the Shire so that impacts on Council's infrastructure assets can be addressed within the development and processing of the proposal.

Changing environmental, community safety and health and safety and other standards can also add to the cost of maintaining and operating Council assets and must be accounted for in the annual budget process.

4.4 Demand Management Plan

The objective of demand management is to actively seek to modify customer demands for services in order to:

- Optimise the utilisation / performance of existing assets
- Reduce or defer the need for new assets
- Meet the organisation's strategic objectives
- Deliver a more sustainable service
- Respond to customer needs

It is vital to the success of this plan that demand factors be analysed comprehensively, and their impact quantified in terms of the following:

- The effect of the growth of the asset network
- Any possible future need to increase or decrease infrastructure
- The implementation of non-asset solutions, such as managing demand

4.5 Asset Programs to Meet Demand

Council will continue to fund pathway infrastructure investment to meet our targets as outlined in the current Road Management Plan. Council will also continue to apply for funding from all appropriate State and Federal Government sources.

LIFECYCLE MANAGEMENT

5 LIFECYCLE MANAGEMENT PLAN

5.1 Background Data

5.1.1 Physical Parameters

The table below identifies the quantities of assets currently known and captured in the asset register as at May 2019.

Table 9: asset Quantities as at May 2019

Asset Component	Asset Quantity (sqm)
Balmoral	
Brick Footpath	1,589
Concrete Footpath	1,321
Sealed Pathway	1,567
Cavendish	
Concrete Footpath	95
Gravel Pathway	214
Coleraine	
Brick Footpath	3,635.4
Concrete Footpath	7,844.4
Gravel Pathway	1,384
Sealed Pathway	410
Dunkeld	
Brick Footpath	22
Concrete Footpath	2116.6
Gravel Pathway	256
Sealed Pathway	1648
Glenthompson	
Concrete Footpath	1,305.25
Gravel Pathway	28
Sealed Pathway	210
Hamilton	
Brick Footpath	9,355.6
Concrete Footpath	107,364.9
Gravel Pathway	14,663
Sealed Pathway	25,696
Penshurst	
Concrete Footpath	3,965.95
Gravel Pathway	5,575
Sealed Pathway	1,415
Tarrington	
Concrete Footpath	69
Gravel Pathway	1,989

5.1.2 Asset Capacity/Performance

The general ability of the pathway network to meet demand is reasonably good. Council is currently in the process of rectifying failed sections of pathway to maintain the existing level of service. New sections of pathways are only delivered following consultation with affected land owners.

The need to provide pathways is based on a combination of the traffic volume, available road width and pedestrian demand. Future developments or increased use could require changes to hierarchies or additional pathways. Situations would be assessed as part of Council's planning process or capital program.

5.1.3 Asset Condition

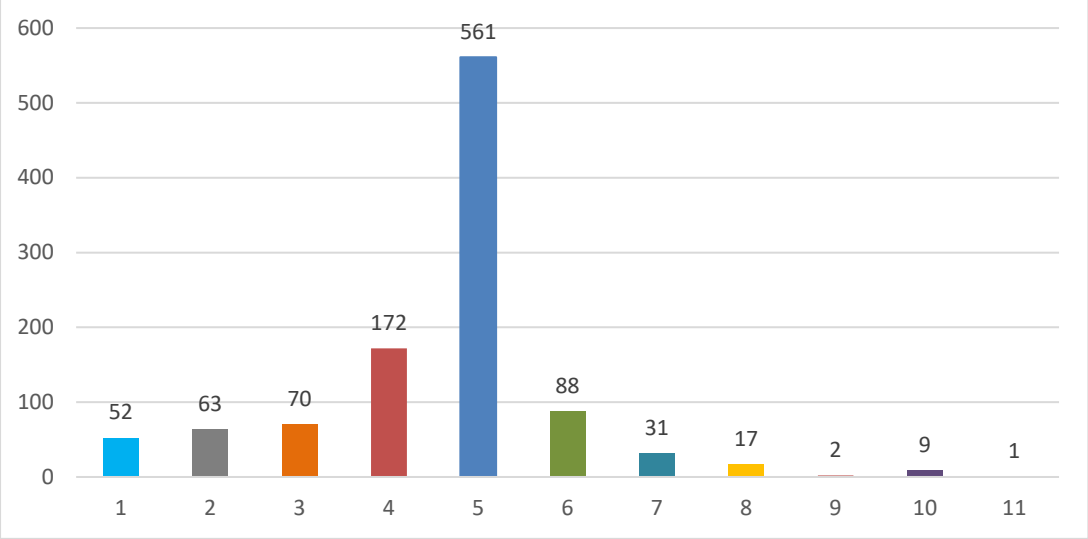


Figure 6: Seal Condition Rating by Asset Class

The table below outlines the condition rating for the condition scores used above.

Table 10: Condition Rating Description

Rating		% RUL	Wear	Separation Between Ind Slabs	Cracking
0	New		None	None	
1	Near new		None	None	
2	Excellent		Very slight	None	None
3	Very good		Slight	Very minor	
4	Good		Some	Some	
5	Fair	30%	Obvious or if the only defect quite severe	Obvious but not severe extent	
6	Fair to poor	20-30%	Obvious or if the only defect severely eroded	Obvious	
7	Poor.	Replace in immediate future	Obvious, Or if the only defect extreme	Obvious	Regular over much of the segment
8	Very poor.	Risk to the public	Extensive	Extensive	Extensive
9	Extremely poor	Replace immediately. Not considered safe	Extreme	Extreme	Extreme
10	Failed.	Not to remain in service			

Note: Overall segment condition is not downgraded because of isolated failures which are recorded and rectified under maintenance. Extensive isolated failures would influence the condition of the footpath.

Council undertakes revaluation and condition assessments of asset classes in accordance with the Accounting for Assets Policy. Pathway infrastructure is undertaken on a four yearly cycle.

The next Condition Assessment is scheduled for 2022.

5.1.3.1 Asset Degradation

As Council has used the same assessment system since 2004, asset degradation or performance curves, unique to the district, can be developed. The condition change between surveys is used to predict the annual statistical probability of an asset degrading from one condition to the next. In turn, this equates to an expected average life within each condition rating. The degradation curves serve two very important functions. They are used for financial modelling to predict future asset condition movement and financial demand and they form the basis of the justification for the selection of depreciation life cycles within the accounting system.

5.1.4 Asset Valuations

As at May 2019 the Pathways Asset Group has a total replacement cost of $15,770,357 with written down value of $9,556,674.

Key elements of the process include:

Class Description

Complete listing of pathways within the Shire broken down into segments, and includes the following:

- Length
- Pavement width
- Pavement condition (rated from 1-10 with 10 being the worst)

Asset Categories

The pathway assets broken down into the following sub-categories

- Concrete footpath
- Sealed footpath
- Brick footpath
- Gravel footpath

Fair Value

The fair value is defined in AASB1041 as being "the replacement cost of the assets remaining future economic benefit". This was determined by calculating the replacement value, and multiplying it by the remaining useful life divided by the total useful life. This written down replacement cost is then used as a measure of fair value.

Example: Qty x Unit Replacement Value = Replacement Value

$$\text{Replacement Value} \times \frac{\text{Remaining Useful Life}}{\text{Total Useful Life}} = \text{Fair Value}$$

5.2 Operations and Maintenance Plan

5.2.1 Operations and Maintenance Plan

Pathway maintenance services are undertaken by Council's own Works Team. Funding is set through the annual budgeting process for pathway maintenance and could be contracted out where demand exceeded internal capacity.

5.2.2 Operations and Maintenance Strategies

5.2.2.1 Maintenance Activities

The below table shows the standard maintenance activities associated with pathway infrastructure. Service levels associated with these jobs are outlined in Attachment 4.

Table 11: Standard Maintenance Activities

Routine Maintenance Component	Asset Feature	Standard Jobs
Pavement Maintenance	Concrete Pavement	Bay Replacement
		Grinding
		Premix Patching
		Tree Root Removal
		Root Barriers
	Brick Pavement	Lift and Relay
		Replacement
		Tree Root Removal
		Root Barriers
	Gravel Pavement	Patching
		Resheeting
		Tree Root Removal
		Vegetation Spraying
	Sealed Pavement	Resealing
		Stone / Emulsion Patching
		Premix Patching
		Tree Root Removal
	Drainage	Surface Drains
		Sub-Surface Drains
		Culverts and Pits Cleaning
		Culverts and Pits Repair

		Kerb & Channel/Pits
Edge Repair	Edge Drop	Nature Strip Infill
Guide Facilities	Tactiles	Tactile Replacement
Operational Servicing	Litter	Litter Control
Signs Maintenance	Pathway Furniture	Signs General
		Guide Posts
		Sign Replace
Other	Emergency Works	Emergency Works And Repair
	Vandalism	Vandalism Repair

5.2.2.2 Maintenance Strategies

General maintenance strategies include:

- Ensuring the pathway network is maintained in accordance with agreed levels of service
- Deferring non-safety related maintenance work if capital works project is imminent

The table below identifies the service level required of pathway assets and as such the objective of maintenance activities.

Table 12: Functional requirements of maintenance

Asset Feature	**Functional Requirements of Maintenance**
Pavement Maintenance	
Pathway Surface	Provide all weather access to properties and recreational areas
Operational Servicing	Provide timely emergency response to assist the public and minimise disruption caused by temporary loss of use of the asset.

5.2.3 Summary of Future Costs

With the introduction of the hierarchy classification of assets, the General Ledger's Chart of Accounts should be restructured to allocate funds to specific key maintenance activities in order to monitor expenditure. These allocations can be monitored by Council through the budget process to ensure the community is getting the best from its assets.

Future maintenance costs are outlined in the adopted annual budget.

5.3 Renewal/Replacement Plan

5.3.1 Renewal Strategies

5.3.1.1 Renewal Strategy

The general renewal strategy is to rehabilitate or replace assets when justified by assessing:

- Risk: The risk of failure and whether the associated financial and social impact justifies action (e.g. impact and extent of resulting inability to achieve access along the pathway, probable extent of damage to business, and any health risk arising from the impediment to access)

- Asset performance: Renewal of an asset when it fails to meet the required level of service. Non-performing assets are identified by the monitoring of asset reliability, capacity and efficiency during planned maintenance inspections and operational activity. Indicators of non-performing assets include:
  - constant closures due to impassability
  - uneven surface causing risk to public safety
  - risk to safety is rated high on an increasing frequency
- Economics: It is no longer economic to continue repairing the asset (i.e., the annual cost of repairs exceeds the annualised cost of renewal)
- Service:
  - The value of the service the asset provides to the community
  - If the current service level appropriate or should it be reduced or increased to better meet demand.

5.3.1.2 Renewal Priority Ranking

The table below outlines Council's process for identifying and undertaking renewal works.

Table 13: Renewal Priority Ranking

Step	Description
1	Potential renewal projects identified from the: • Outcome of condition surveys based on condition rating and remaining life. • As required condition inspections
2	Projects are inspected to verify the current condition rating.
3	Projects are prioritised into a draft Long Term Renewal Works Program according to the established weighting system and justified by the completion of a Capital Works Business Case. Supporting documentation showing condition status (0-10) should be included as an attachment to the Capital Works Business Case.
4	The Long Term Renewal Works Program is referred to the Long Term Financial Plan for inclusion as projected cash-flow expenditure. The actual program is dependent upon the actual funding provided in the LTFP based on the renewal modelling outcomes.
5	As part of the Annual Budget process the Long Term Renewal Works Program is rationalized to match the available budget expenditure. This Annual Renewal Works Program may be further modified to provide greater efficiency by allowing for factors including: • Economies of scale, • Project location. • Asset service value
6	Following the completion of works in accordance with the Asset Handover process details of the change in assets is reported to the Asset Manager for inclusion in the Asset Register.

5.3.1.3 Renewal Capital Works Program

The Capital Works Business Case document should be completed for all renewal programs being scheduled. Finance provide advice annually on completing the documentation and the evaluation process that is undertaken.

5.3.1.4 Treatment Options

The following factors have a significant effect on renewal costs.

- Pavement material
  - Use of high quality material can increase the life of a pathway
  - Sourcing natural gravels strategically located can reduce transport costs
- Alternative Treatments
  - Full reconstruction is not always necessary and lesser treatment such as isolated repairs and special surface treatments can increase the life of the pathway
- Contributions
  - Others may make contributions to have works undertaken
- Maintenance practices
  - Timely and appropriate maintenance can increase a pathway's life and the opposite is also true. Current funding levels for pathways don't permit optimum service levels to be maintained. The Moloney Asset Management system predicts that less then optimal renewal rates can also increase the demand in levels of maintenance

5.3.2 Summary of Future Costs

5.3.2.1 Renewal Requirement

The financial modelling functions within the Moloney Asset Management system have been used to predict the future renewal demand.

The figure below shows the predicted condition of the pathway network if Council maintains existing funding levels.

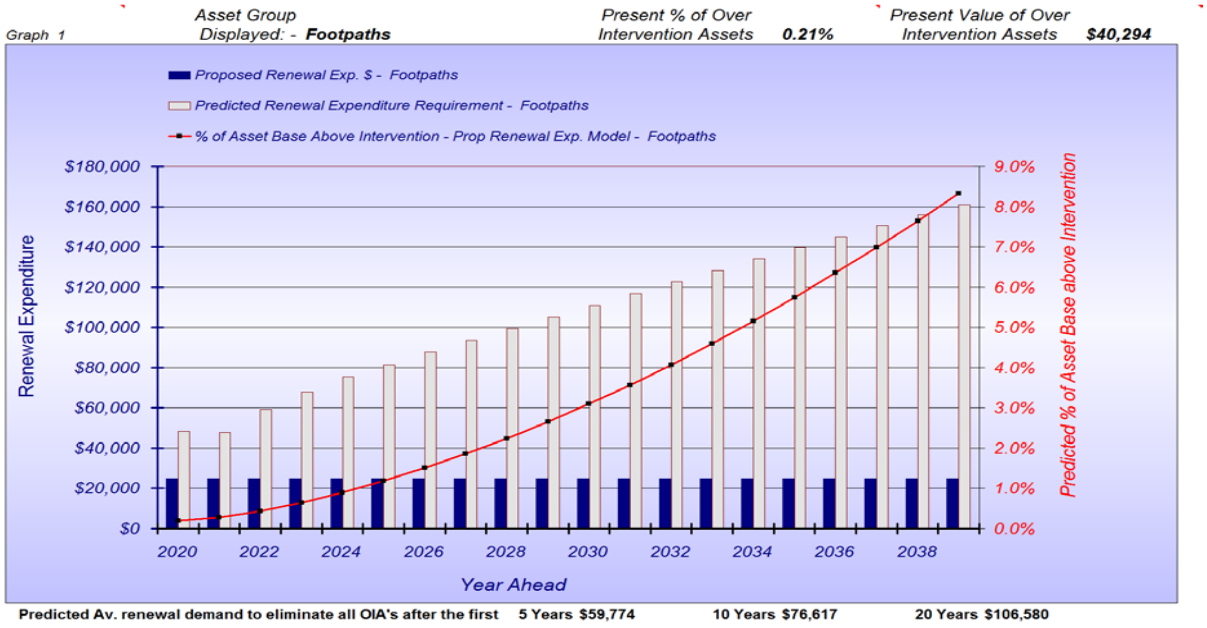


Figure 7: Future Predicted Condition Based on planned expenditure profile (Moloney Asset Management Report 2019)

The figure below shows the recommended expenditure on pathways to maintain the network within intervention levels.

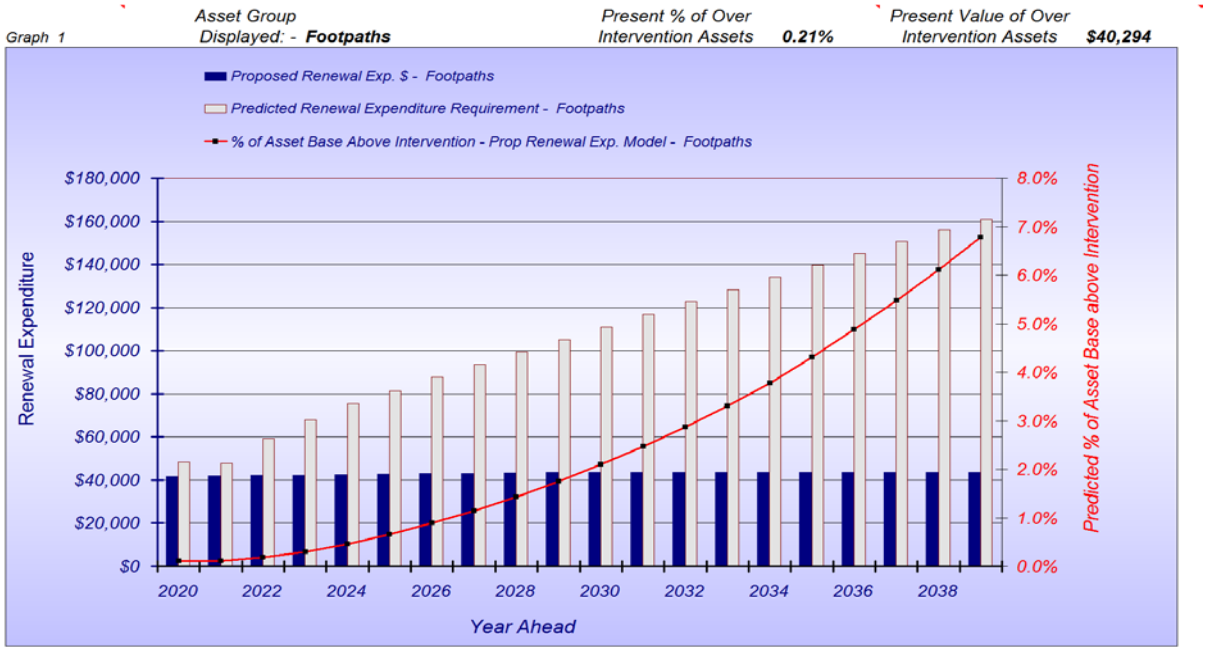


Figure 8: Recommended Future Renewal Funding Strategy (Moloney Asset Management Report 2019)

The figure below shows the required expenditure on pathways to maintain all assets that reach intervention level from 2020.

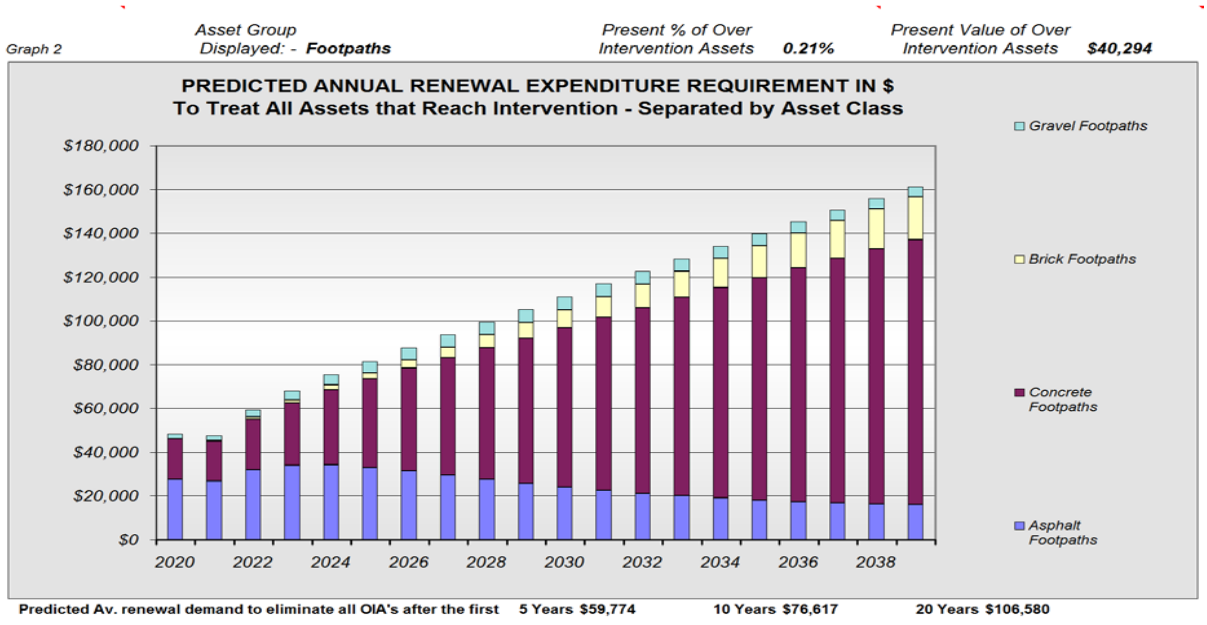


Figure 9: Predicted Renewal Demand to treat all assets that reach the Intervention level through normal decay (Moloney Asset Management Report 2019)

The following table identifies the current predicted Budgeted Statement of Capital Works for the next 4 years as identified in the Strategic Resources Plan 2019/20 – 2023/24.

Table 14: Council's Current Forecast Pathway Infrastructure Renewal Budget

	Budget	Strategic Resource Plan Projections

	2019/20	2020/21	2021/22	2022/23
Footpaths and Cycleways	550,000	74,000	84,000	97,000

5.4 Creation/Acquisition/Augmentation Plan

The Shire is cognisant of the difficulty for funding the existing pathway network, both maintenance and renewals, therefore is very cautious about undertaking creation of new assets or upgrading existing assets. Where requests are received for upgrade or new infrastructure it is considered as per Council's Asset Management Policy.

Provision of new works fall into the following categories:

- Grant and Council funded
- Developer funded as part of sub divisional development
- Special rate special charge scheme and Council funded

Where possible, developers of new subdivisions are required, as part of the development approvals process, to provide the basic pathway infrastructure to the standard appropriate for that development as per the Infrastructure Design Manual.

Council will generally acquire a new pathway following the completion of a subdivision. Council will not accept ownership of the pathway infrastructure if it does not meet the standards as set out in the Infrastructure Design Manual.

Conversely from time to time there may be opportunities to re-categorise a pathway within the functional hierarchy and hence change the maintenance requirements. These decisions are largely based on use.

5.5 Disposal Plan

5.5.1 Forecast Disposal of Assets and Future Disposal Costs

There are at present no pathway assets within the Shire under Council jurisdiction that are proposed for disposal without replacement.

Disposal of pathways could occur where they are:

- Requested by residents and approved by Council
- Handed over or back to a private interest or other authority
- Where utilisation studies specifically demonstrate that insufficient or no use is occurring and the continuing existence of the asset is not justified

Generally there is little opportunity to dispose of a pathway. Within urban areas where pathways are located, it is envisaged that once installed it will continue to be maintained.

Generally a pathway, is 'disposed of' at the time of reconstruction. At that time, some or all of the material is removed and recycled or disposed of as part of the reconstruction process. Council's asset

records are adjusted to reflect the change in asset value as a result of reconstruction and the creation of a ‘new’ asset with a higher value than the one replaced.

The costs of disposal are included in the renewal works cost projections. There is generally no income stream from disposal as there is a limited market for used pathway materials which may be recycled into construction material.

RISK MANAGEMENT

6 RISK MANAGEMENT PLAN

This document utilises principles established in the **ISO 31000:2018 – Standards Australia**. The process of risk assessment follows principles outlined in the 2002 document from Civic Mutual Plus **"Road Reserve Risk Management – Statement of Principles"**.

The overall objectives of a formal risk management approach are to:

- outline the process by which Council manages risk associated with its assets, so that all risks can be identified and evaluated in a consistent manner,
- identify operational and organisational risks at a broad level,
- allocate responsibility for managing risks to specific staff to improve accountability; and,
- Prioritise the risks to identify the highest risks that should be addressed in the short to medium term.

6.1 Critical Assets

Critical assets are defined in the International Infrastructure Management Manual (2015, pg. xviii) as assets that are likely to result in a more significant financial, environment and social cost in terms of impact on organisational objectives.

The table below identifies types of critical assets and the justification for their identification.

Table 15: Critical Pathway Infrastructure Assets

Impact on Infrastructure	Critical Impact	Critical Justification
Significant deterioration for pathway	Financial Social	Potential to cause injury or death. Inconvenience for user. Limited access to mobility aids and prams.
Uneven surface	Financial Social	Potential to cause injury. Reduced access for mobility aids and prams.
Obstructions over pathway	Social	Potential to cause injury.

6.2 Risk Assessment

The only practicable means of readily identifying risk is by undertaking regular inspections of our assets. This process should enable significant risks to be discovered and remedied in advance of possible injury.

Safety audits need to be undertaken where specific risks (potential safety deficiencies) are identified. Council's Asset Inspector does routine inspections of all Council's pathway infrastructure as per the current Road Management Plan. They also inspect following concerns raised via the community.

Risks are to be analysed in terms of consequence and likelihood in the context of those controls. The analysis should consider the range of potential consequences and how likely those consequences are to occur. Consequence and likelihood may be combined to produce an estimated level of risk.

The risk assessment of a specific asset component is determined by the specific defect or hazard likely to occur and the function, location, types of users and user numbers.

6.3 Infrastructure Resilience Approach

The pathway infrastructure portfolio has a core level of resilience with regards risk management. Council has significant detailed inspection and maintenance requirements including intervention levels as outlined in the Road Management Plan. Council's Risk Department manage the Business Continuity, Risk Policy and Risk Management Strategy on behalf of the organisation. The Asset Team is relatively newly developed and are working on embedding better processes and plans into the future.

FINANCIAL SUMMARY

7 FINANCIAL SUMMARY

7.1 Financial Statements and Projections

Financial projections are summarized in this section for;

- Maintenance.
- Renewal.
- New and upgrade.
- Operations.
- Disposal.

7.1.1 Current Financial Position

This outlines the funding required for Council to meet the life-cycle renewal funding based on a uniform rate of decay of the various asset components. It also includes the ongoing maintenance requirements.

It is difficult to be precise in determining true maintenance needs. Even if a process of zero-based budgeting was undertaken, maintenance is subject to many variables including extremes of weather and unpredictable loadings during adverse weather.

Council will base its maintenance budget on historic experience with the needs of the varying pathway types and usage patterns. The needs will vary if Council is to change the hierarchy of its pathway network. For the purpose of modelling future funding needs, current funding levels will be taken as the base requirement until such time as a business case is presented to Council that demonstrates the need for a specific change.

The financial modelling establishes the full funding needs for Council to maintain the asset with the required level of service. The modelling does not account for any inflationary increases, with all amounts being in Net Present Value (NPV) terms.

Table 16 is a summary of previous years maintenance and capital works funding to maintain, renew and upgrade the pathway infrastructure network.

Table 16: Summary of Previous Years Maintenance and Capital Works Funding

Budget Year	Maintenance	Capital (Renewal, New, Upgrade)	Total Expenditure
2016/17	$107,855	$74,000	$181,855
2017/18	$143,242	$248,000	$391,242

7.2 Funding Strategy

Renewal expenditure has been historically funded from the following:

- Rates
- State funding
- Federal funding

Future alternate sources of funding could come from:

- Special charge schemes
- Australian Disability Enterprise Capital Grants

Where under-funding of maintenance continues for any length of time, it results in more rapid deterioration of the asset therefore reducing its intended life-span and the earlier need to fund replacement.

7.3 Forecast Reliability and Confidence

7.3.1 Accuracy of the Information

The following assumptions have been made in developing the financial forecast:

- Moloney modelling has used current life expectancy, intervention and unit rate levels as per the (Infrastructure Assets Revaluation Justification document) in its modelling when completing the 2019 review
- Asset register used by Council is accurate and contains all relevant details

7.3.2 Actions for Improving Future Financial Forecasts

Future financial forecasts may be improved by the following improvement actions:

- Completing an audit review of all Council's assets on a regular basis
- Complete strategic financial modelling on pathway segments
- End to end process development to ensure repeatedly consistent outcomes

Confidence is growing organisationally towards the skills and reliability of the asset register, however the Asset Management Team has significant work to undertake with the Finance Team to improve reliability and confidence in the data.

PLAN IMPROVEMENT AND MONITORING

8 PLAN IMRPOVEMENT AND MONITORING

8.1 Status of Asset Management Practices

8.1.1 Asset Management Systems

The key Asset Management practices needed to support robust asset management planning includes the following:

- Processes: The necessary processes, analysis and evaluation techniques needed for life cycle asset management.
- Management Systems: The information support systems which support the above processes and which store, analyse and manipulate asset data.
- Asset Data: Data available for manipulation by information systems to support AM decision-making. Practices in all of these areas, as well as the AM Plan itself, are assessed. Finally, implementation tactics, covering service delivery, procurement, and organisational arrangements are also part of the review process.

8.1.2 Geographic Information System (Mapping)

Council uses IntraMaps to record and store its mapping information.

8.1.3 Asset Register

Council uses Conquest 3 to record its asset management data. This is linked to IntraMaps.

The system records and can report on both the Register of Public Roads and the Register of Public Road Assets for which Council is responsible.

The asset register includes physical data e.g. description, size condition, unit costs, location, age, asset values and depreciation rate.

The system can be used to generate work orders however this is functionally is currently undertaken by Council's financial system Civica.

The asset register together with the Moloney Asset Management Software is used to generate financial modelling to assist with the development of Council's strategic financial plan and should be used to support business cases for annual and future capital works programs.

The data is captured in the asset register for all roads, bridges, culverts, footpaths, kerb and channel, pathways, buildings and other minor infrastructure.

Each Asset Group is reviewed on a regular basis to insure the asset register, CIVICA and Intramaps record the same information. Condition and valuation data is captured in line with Council's Accounting for Assets Policy.

As improved data comes to hand it will be uploaded into the database.

8.2 Improvement Program

Key areas of improvement include:

4. Increase the accuracy of pathway data
5. Increase use of mobile tools to allow real time capture of defects and works in the field
6. Create an audit process for design and construction works to ensure compliance with the Road Management Plan

8.3 Monitoring and Review Procedures

This plan is a living document. To ensure the plan remains relevant the following on-going process of monitoring and review activities will be undertaken:

- Formal adoption of the plan by Council
- This plan will be updated annually to ensure it represents the current level of service, asset values and projected operations, maintenance and capital expenditures
- Quality assurance audits of Council's Asset Register information and processes and review of systems to ensure the integrity of data collected
- The plan will be formally reviewed and adopted every 4 years to align with Council's Plan

REFERENCES

9 REFERENCES

Council's reference documents are available for public inspection at the office of Council's Engineering Department, Hamilton. They include:

- Road Management Plan 2017
- Moloney Road Report December 2019
- SGSC Infrastructure Assets Revaluation Justification Document updated 2019

APPENDICES

10 APPENDICES

Attachment 1: Pathway Hierarchy Functional Classification System

Attachment 2: Inspection Management Flow Chart

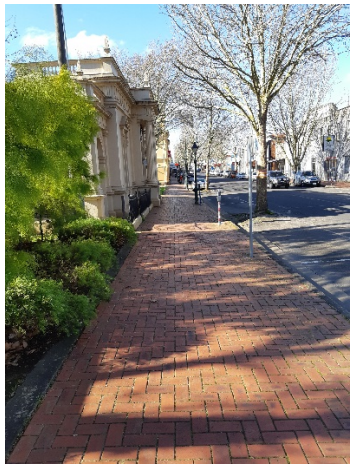
Attachment 3: Customer Request Management System

Attachment 4: Maintenance Service Levels

Attachment 5: Risk Management – Footpaths

Attachment 6: Shared Asset Maintenance Agreements

10.1 Attachment 1: - Pathway Hierarchy Functional Classification System

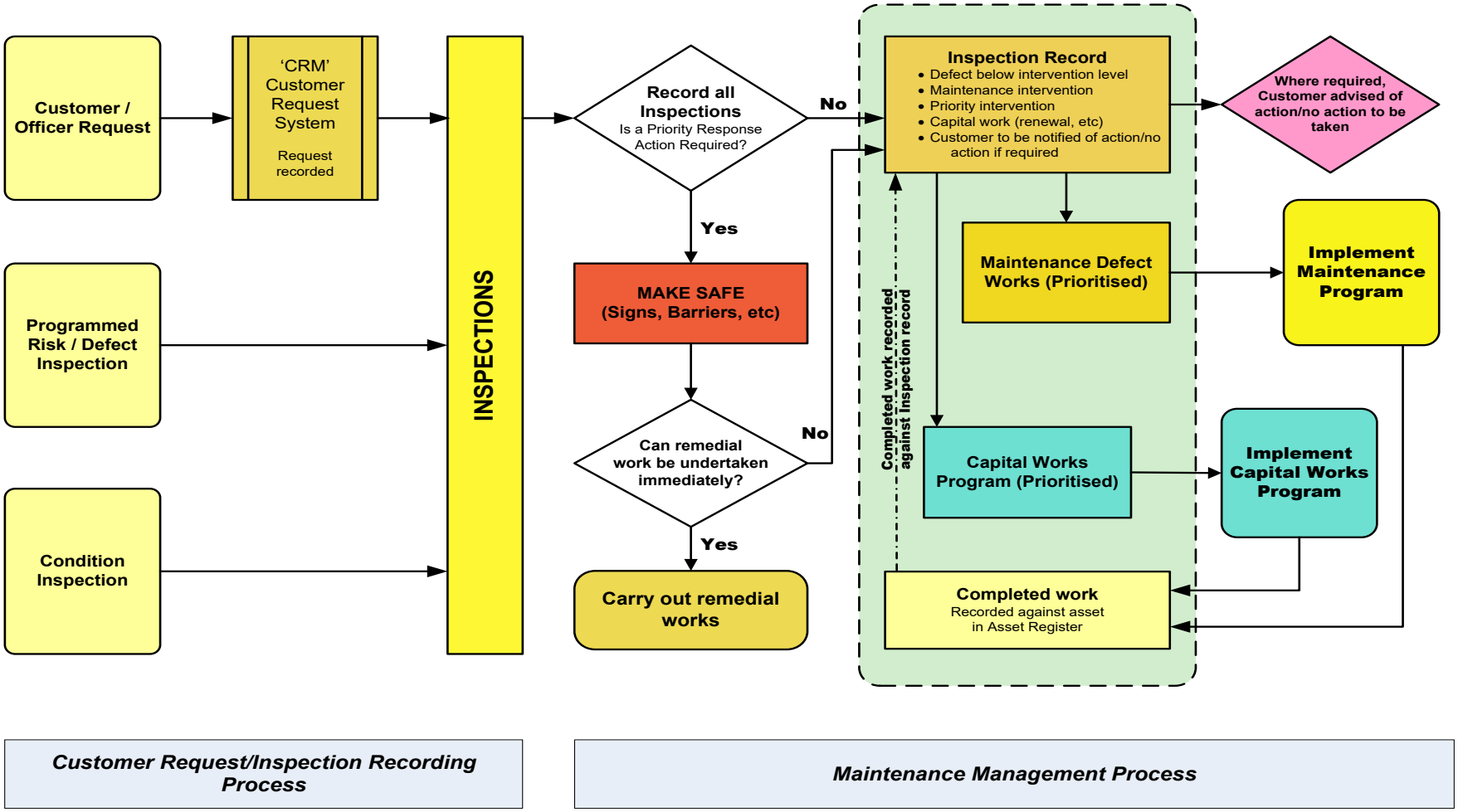
Class Type	Service Function Description	Typical Road Type Description and Performance Requirements	Typical Image
Commercial	• Generally adjacent to commercial premises. • Activity level is continuous groups or individuals moving in both directions. • Also in areas of high use by community members with a disability, such as the hospital.	• Usually very wide, extending from the property boundary to the kerb. • Typical width is 3.0m to 8.0m • Good quality surface • Pathways maintained to a good standard and on a regular basis	

Thoroughfare	• Used for longer distance travel to move from one area to another or for recreational purposes. • Activity level is frequent groups or individuals.	• May be wider than Residential pathways but not full width like Commercial pathways. • Typical width is 1.2m to 1.5m • Fair quality surface • Pathways maintained to a fair standard on a needs basis	

Attachment 1A –Pathway Hierarchy Functional Classification System continued

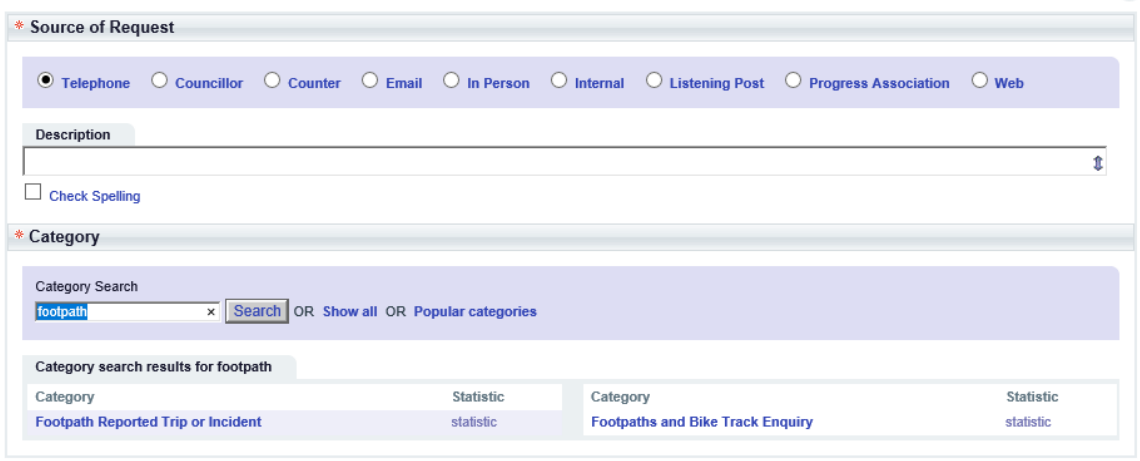
Class Type	Service Function Description	Typical Road Type Description and Performance Requirements	Typical Image
Residential	• Used for access to residential properties and more isolated facilities such as recreation reserves or corner shops. • Activity level is occasional individuals.	• Typical width is 1.2m to 1.5m • Fair quality surface • Pathways maintained to a fair standard on a needs basis	

10.2 Attachment 2: - Inspection Management Flow Chart



10.3 Attachment 3: - CRM Customer Request Management System

System Data Entry Screen



10.4 Attachment 4: - Maintenance Service Levels

Activity Descriptions and Target Levels

ACTIVITY	DESCRIPTION	TARGET LEVEL
Pathway Maintenance		
Brick Footpath	Provide temporary and/or permanent repair of loose, missing and dislodged pavers posing a potential hazard to pedestrians.	Repair when surface has a step greater than 25mm, depression/ deformation greater than 150mm under a 3m straight edge on sealed surface.
Concrete Footpath	Provide temporary and/or permanent repair of vertical displacements, holes, edge breaks, lifted/ subsided/ distressed areas posing a potential hazard to pedestrians. Treatment may involve grinding, crack sealing and/or bay replacement.	Repair when surface has a step greater than 25mm, depression/ deformation greater than 150mm under a 3m straight edge on sealed surface.
Gravel Footpath	Provide temporary and/or permanent repair of surface corrugations and/or potholes posing a potential hazard to pedestrians. Treatment may include grading and/or spot gravelling of constructed path with crushed rock.	Repair when surface has a step greater than 25mm, depression/ deformation greater than 150mm under a 3m straight edge on sealed surface.

Sealed Footpath	Provide temporary and/or permanent repair of holes, edge breaks, lifted/ subsided/ distressed areas posing a potential hazard to pedestrians.	Repair when surface has a step greater than 25mm, depression/ deformation greater than 150mm under a 3m straight edge on sealed surface.
Pavement Sweeping	Mechanical or hand sweeping of pathway to remove debris	Clean pavement when the accumulation of aggregate, dirt and debris becomes a danger to pedestrians or prevents free drainage of the pavement.
Edge Repair		
Edge Drop	Provide temporary and/or permanent repair of depressions at the interface of the constructed paths and the surrounding ground. Treatment may involve topping up with topsoil, gravel or sand.	Repair when edge drop is greater than 100mm from pathway surface to adjacent ground (excluding kerbs).
Guide Facilities		
Tactiles	Provide temporary and/or permanent repair of tactile pavers.	Damaged tactile pavers (cracked or worn) that could be hazardous to pedestrians
Operational Servicing		
Litter Control	Removal of litter from within road reserve.	Pick up all litter within the road reserve, visible and if deemed a health hazard or visually intrusive.

ACTIVITY	DESCRIPTION	TARGET LEVEL
Signs		
Signs	Signs shall be cleaned or replaced.	When they are missing, illegible, or damaged making them substantially ineffective
Sign Posts	Sign posts shall be maintained in good condition and vertical.	All posts shall be straight and plumb.
Signs	Signs to be visible at all times.	Vegetation other signs or objects are to be removed if obscuring any sign.
Other		
Emergency Works	All works arising from emergency incidents to ensure safety of the public and protection to infrastructure.	When detected or made known, and is a safety hazard.
Vandalism Repair	Repair or reinstatement of isolated damage caused by vandalism including graffiti.	If hazardous, as per Emergency Works, otherwise repair/reinstate.

10.5 Attachment 5: - Risk Management - Footpaths

Hazard	Cause	Area of Impact	Controls
Pedestrian fall	• Joint misalignment from trees • Rough uneven surface • Ground movement • Inappropriate, missing signage • Path edge drop off • Slippery surface, water • Service pits • Weeds	Public health & safety	• Defect inspection frequency • Street lighting
Collision with overhanging limbs	• Overgrown vegetation	Public health & safety	• Maintenance inspection and works programming. • Local laws notice procedure. • Design template.
Conflict with vehicle	• No path present walking on road • Turning traffic at intersections • Turning traffic at properties • Inappropriate, missing signage	Public health & safety	• Level of service for provision of path appropriate for level of use. • Tree planting policy addresses type and location.
Damage from unauthorized (heavy) vehicle	• Building construction traffic	Financial	• Pre-inspection of building works and follow up.
Conflict from inappropriate use by motor bikes	• Motor cycles utilising footpath	Public health & safety	• Signage • Barriers
Conflict between pedestrian and bicycle users on shared paths	• Inadequate signage, road marking • Poor design	Public health & safety	• Signage • Design standards appropriate for level of use.

10.6 Attachment 6: - Shared Asset Maintenance Agreements

Table A. Non Council Pathways

Pathway	From	To	Responsibility
Bryan Creek Pathway	Turnbull St	Pilleau St	Department of Environment, Land, Water and Planning
Cavendish – Settlers Walking Trail	East Boundary Rd	Entry - Weir	Department of Environment, Land, Water and Planning
Dunkeld – Boardwalk – Salt Creek			Department of Environment, Land, Water and Planning
Dunkeld – Public Lands (Arboretum)	Adams St	MacArthur St	Department of Environment, Land, Water and Planning
Hallam Close	Mt Bainbridge Rd	End	Department Human Services
Lakeside Court	Glenelg Hwy	End	Private Road
Rail Trail	Coleraine Township	Hamilton Township	Department of Environment, Land, Water and Planning